



Project Management Manual

Volume 1: PM Desk Book

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THE PROJECT MANAGER'S TEN COMMANDMENTS

PROJECT MANAGERS SHALL:

1. Draft the Project Charter to define the scope, schedule, budget, and project limits. Update the Charter when changes occur or on a semiannual basis.
2. Make an independent cost estimate before receiving bids or proposals. Use your independent estimate as the basis for negotiating the proposed price, schedule and staffing.
3. Execute Contracts, Contract Task Orders, and Change Orders before performing work and only after verifying funding. Do not proceed otherwise.
4. Pay your Contractors quickly in accordance with the Prompt Payment Statute, but make sure the charges are valid. Disallow mischarges and short pay the Contractor the remaining balance. Don't hold up payment if you don't know what to do; go to your supervisor for guidance immediately.
5. Make timely, well-informed decisions. That is what we pay you to do. If you get stuck, don't dither; go to your supervisor or fellow project managers for guidance immediately.
6. Talk frequently to the Contractor, the Project Sponsor, Project Executive Group, and key stakeholders about the project status. Act promptly on changes and don't surprise your stakeholders and Project Executive Group. Bad news ages badly. Good news doesn't age well, either.
7. Keep a PM Notebook containing the current updated Project Charter, PM Sheet, Change Order/Change Notice log, cooperative agreements, and key correspondence. Maintain an accurate project file.
8. Keep your PM Sheet up to date with a realistic schedule, estimate at complete, and a log of risks and potential changes well in advance of their occurrence.
9. Be engaged, be well informed, and control your Contractors and Consultants.
10. Close out your projects promptly.

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1.0 Introduction

1.1 Purpose and Structure of Manual

This manual details how projects are initiated and completed at Metrolink with specific emphasis on the role and duties of the Project Manager to ensure that projects are managed safely, efficiently, cost-effectively, and uniformly. Some key concepts in this manual that are new to the Metrolink project process include:

- All projects are the direct product of a strategy for continuing development of infrastructure and capability at Metrolink, and specific funding/grant sources are defined for each project before it is initiated.
- All projects have a Project Sponsor and Project Manager who own the project from initiation through close-out.
- All projects are approved for initiation and are monitored throughout their development by the Project Executive Group.
- All projects must go through a standard set of steps called the **PROJECT LIFECYCLE**. This process defines every phase from strategy, initiation and planning to design, construction and closeout; and will not be deviated from without specific approval of the Project Executive Group.
- All projects will be actively monitored by the Program Management Office who will team with the Project Manager to provide timely project performance information to the Project Executive Group.

This manual should be studied and consistently used as a resource and guide by all persons who are directly or indirectly involved in any of the various phases of Metrolink projects. Although the primary focus is the Project Manager and the various functions that individual must routinely complete to safely navigate a project from its beginning to completion, there are many groups within Metrolink (Grants, Engineering, Finance, Procurement, Government Affairs) that either support the Project Manager's activities, directly partner with the Project Manager or other project team members on project-related work, or rely on information generated by the project management effort. It is vital that these persons understand how projects are managed, what their role is required to be, and how all key functions within the project management process are to be completed. There is no room for non-compliance. The processes in this manual are not discretionary or negotiable.

This manual is composed of three parts:

- 1) **Volume 1: The PM's Desk Book** – A concise description of how projects are conducted at Metrolink with particular emphasis on the duties of the Project Manager and how to get things done.
- 2) **Volume 2: Appendices** – Supporting documents including Metrolink flow charts, best practices, and specific detailed procedures to assist the Project Manager.

- 3) **Volume 3: Major Outside Reference Documents** – Key documents that are used by Metrolink or documents to which Metrolink must comply.

In addition there are four standard checklists located in Volume 1 that provide guidance on Contract Task Orders (CTO) and Job Order Contracts (JOC), change orders, getting invoices paid and closing out projects. There is also a document entitled “Ten Commandments of Project Management” that provides guidelines to assist the Project Manager and outlines the Project Manager’s major duties.

1.2 Metrolink’s Service Territory

The Southern California Regional Rail Authority (SCRRA) is a five-county joint powers authority (JPA) created to build, maintain and operate the Metrolink commuter rail system. The five JPA member agencies are: the Los Angeles County Metropolitan Transportation Authority (Metro or MTA), the Ventura County Transportation Commission (VCTC), the Orange County Transportation Authority (OCTA), the San Bernardino Associated Governments (SANBAG), and the Riverside County Transportation Commission (RCTC). Metrolink operates on rail rights-of-way owned by the member agencies.

Although in the past, “SCRRA” referred to the JPA and “Metrolink” referred to the operating system, for the purpose of simpler communication “Metrolink” is the preferred reference for both. Please be aware of this distinction when reviewing and referring to older documents.

On behalf of the JPA agencies, Metrolink operates revenue passenger service and manages and oversees the infrastructure design, construction, rehabilitation, and maintenance of approximately 388 route miles of railroad corridor. Metrolink provides input and reviews work on another 124 route miles owned by primarily the BNSF and UPRR railroads. Metrolink operates through track shared agreements with other railroads.

Metrolink provides service over seven routes to 55 stations over 512 route miles. Fourteen of Metrolink’s 55 stations are located on the BNSF and UPRR shared track. All of the railroad infrastructure over which Metrolink operates is a part of the U.S. general railroad system of transportation and is subject to Federal Railroad Administration (FRA) regulations as embodied in the Code of Federal Regulations Title 49 Chapter II, Parts 200-299. Metrolink shares tracks and service territory with Class I freight carriers BNSF and UPRR as well as Amtrak and North County Transit District- Coaster. Most of Metrolink’s service territory features dense (greater than 50 trains daily) mixed passenger and freight traffic.

1.3 Typical Metrolink Projects

The typical Metrolink project is of a relatively low (less than \$20 million) construction cost, but is more technically complex than indicated by the capital cost alone. Projects generally have multiple contractors (e.g. civil, signals, and communications) and scope that must be coordinated to produce a safe operational track at the end of a work window. Additionally, the safety and operational risks inherent to construction adjacent to active rail lines add to

the complexity of the projects phasing and staging. Recently there have been a number of very complex projects with budgets over \$20 million and, in some cases, exceeding \$100 million.

Metrolink's maintenance, rehabilitation and new capital projects are developed and designed using professional service consultants and constructed with contractors working under a variety of public works contracts using a number of procurement methods including:

- Invitation for Bid (IFB, sealed bids)
- Competitive Negotiated Service and Installation Contracts (requests for proposals with fully burdened labor rates)
- RFP's for Professional Services General Engineering Consultants (GEC) and PM/CM consultants
- IFB and RFP Materials Procurements
- Design Build (DB) contracts
- Job Order Contracts (JOC)

Metrolink contracts involve the use of federal, state, and local grants and therefore must conform to funding and eligibility regulations and requirements of these funding sources. Metrolink also provides review and support services for external or third party projects performed under reimbursable Construction and Maintenance (C&M) or Cooperative Agreements. These third party projects are also typically funded with federal, state or local grant funds and any services performed must conform to the applicable funding requirements.

1.4 Safe Work

Much of Metrolink's maintenance, rehabilitation, and new capital projects involve additions and betterments, replacement and renovation, and inspection and repair to the existing track, station, bridge, signal and communication system infrastructure. Metrolink's infrastructure projects as well as any external or third party projects generally must be accomplished in intense, short duration (6 to 48 hour) work windows at "off peak times" (night and weekends) to minimize passenger train delays. These types of projects have an elevated risk of exposure to unsafe behavior and safety impacts from external sources. The planning, execution and outcome of all Metrolink and any external projects impacting Metrolink's rail corridor **MUST** be performed with **SAFETY** at the **HIGHEST** priority.

Employees (as well as consultants, contractors and vendors) must keep safety at the forefront at all times. Projects on and near the operating railroad have an inherent life safety risk that employees can fail to appreciate. Accordingly, employees and managers need to keep in mind all aspects of employee safety on a Metrolink project. The specifics of safety issues and the required behavior are covered in detail in sections 3.6.5.

1.5 Non-Construction Projects

Although the majority of Metrolink projects are related to construction and rehabilitation of the rail infrastructure system, there are projects involving information technology, procurement, finance, marketing and other disciplines that do not have construction components. These projects still must be developed and managed using the Project Lifecycle and will employ the dictates and procedures outlined in this manual. Any variations necessitated because of the non-construction nature of the project should be approved in advance by the Project Executive Group.

2.0 Metrolink Project Structure

2.1 General Comment

This section of the manual covers the key groups and individuals who are responsible for initiating projects, managing projects, providing oversight during the active phase of projects, or having ultimate authority to allow variations to the procedures laid out in this manual. It is critical that all persons either directly or indirectly involved in Metrolink projects clearly understand the roles and responsibilities of the groups and individuals addressed by this section of the manual. Projects will not move forward unless all persons involved in Metrolink projects cooperate with these groups and individuals, and promptly comply with any requests for information that these groups or individuals may make.

2.2 Strategy and Capital Planning Group

The Strategy and Capital Planning Group (SCPG) is responsible for developing the Strategic Capital Plan for the agency, modifying that plan as necessary, and linking the various projects within the plan to sources of funding or grants. On capital projects the SCPG works with the various departments in Metrolink who:

- (1) are responding to a third party request;
- (2) have identified a project that they need to expand or supplement the present infrastructure; or
- (3) are responding to a project request from a Member Agency, or
- (4) are responding to a legislative mandate; or
- (5) are identifying rehabilitation needs.

The SCPG will determine if the proposed project in its present form is part of the Strategic Capital Plan, if that plan should be modified to accommodate the project in question, or if the proposed project scope or proposed schedule should be modified to more closely align with the plan.

Determining possible sources of funding is part of this initial assessment. The SCPG will assist the department in doing the initial planning and preparing the necessary documents to make application to the Project Executive Group. Once the project is approved for activation the SCPG will solidify funding details, often working with Member Agencies to determine how funding responsibilities will be split as well as actual sources of funds. For rehabilitation projects the timing and number of projects are driven more by available rehab funds from Member Agencies and state and federal sources.

However, the intent within SCPG is to make what is now an annual process more strategic and to have a longer term new capital and rehab plan. Presently Metrolink departments determine their annual needs, develop scope and budget for each project, and prioritize those projects. SCPG then creates a master priority list and matches available funds to the list. The final list of projects to be activated is then reviewed by Member Agencies and the Metrolink Board.

2.3 Project Executive Group

The Project Executive Group is comprised of three people who are appointed by the Chief Executive Officer (CEO) of Metrolink. The Project Executive Group performs the following duties:

- Reviews and approves applications for activation of projects
- Conducts regular reviews of project progress
- Works with the Project Sponsor to resolve and approve resolution of important issues that develop on active projects
- Functions as the active conduit for project information to the CEO
- Confirms assignment of Project Managers to new projects at the recommendation of the Project Sponsor

All persons who are directly or indirectly involved in a project should promptly respond to information requests from members of the Project Executive Group. However, Project Executive Group members should routinely refer to the Project Sponsor or the Project Manager as the normal channel of communication and should only access others under extreme or non-standard conditions.

2.4 Project Sponsor

The Project Sponsor is assigned to a project or group of projects by the Project Executive Group once that project:

- 1) has been identified by the Strategy and Capital Planning Group and the appropriate Program Manager as a worthy project; and
- 2) has been approved for activation by the Project Executive Group.

The Project Sponsor can be the Program Manager for the program which covers the project or could be an agency executive or an employee who has particular expertise or knowledge that is of benefit to the project.

The Project Sponsor owns the project from its beginning as an official project to its completion.

The Project Sponsor makes sure that the appropriate resources are made available for the successful implementation of the project. The Project Sponsor does not have any specific responsibility for project activities but is responsible for the smooth running and successful completion of the project.

The Project Sponsor is responsible to make sure that the Project Executive Group promptly has all details concerning any issue that could have a significant impact on the success of the project. The Project Sponsor is responsible to elevate to the Project Executive Group any unresolved issues that have an adverse impact on the project in support of the Project Manager.

All persons directly or indirectly involved in a project must be aware of the responsibilities of the Project Sponsor and render support and assistance to the Project Sponsor as requested.

2.5 Program Manager

Program Managers have overall management responsibility for projects within their individual programs. Metrolink has Program Managers for the following programs:¹

- Engineering/Standards
- Equipment
- Signals and Communications
- Capital Program Management (new construction)
- Rehabilitation
- Public (3rd Party) projects

Program Managers assist the Strategy and Capital Planning Group (SCPG) in the initial planning of projects, and are major participants in the oversight throughout the life of a project. In most cases the Program Managers will also function as Project Sponsors for projects that fall into their area of responsibility. Occasionally, the Program Manager may be the Project Manager. Usually, the respective roles look like this:

- Project Sponsor *usually equals* Program Manager. They are usually the same person, *unless* specific expertise or senior management leadership is needed. In such cases, the Project Sponsor role is filled by someone who meets the requisite need. The Project Sponsor oversees the Program Manager and the Project Manager.
- Program Manager *usually does not equal* Project Manager. These roles are usually filled by separate people, unless, owing to workload constraints, other Project Managers are unavailable. Another instance where the Program Manager would also act as the Project Manager would be when the Program Manager possesses a specific technical expertise vital to a project. In such cases, the Program Manager also fills the role of the Project Manager.

In those rare cases when the Program Manager is not the Project Sponsor or Project Manager, it is vital that the project team keep the Program Manager fully informed as a key supporting member of the project team. The Program Managers must have access to any and all project meetings, documents, and information regarding the projects within their individual programs.

The Program Manager must also comply with all the rules and processes described in this manual. The Program Manager must not hinder the efforts of the Project Sponsor and Project Manager of the project. If such an event arises, it is incumbent upon the Project Sponsor to elevate such concerns to the Project Executive Group.

¹ Note that organizationally, the Program Managers carry several titles. In the Department of Engineering & Construction, the Program Managers of Engineering, Capital Program Management, Rehabilitation, and Public Projects are the Assistant Directors of those respective groups.

2.6 Project Manager

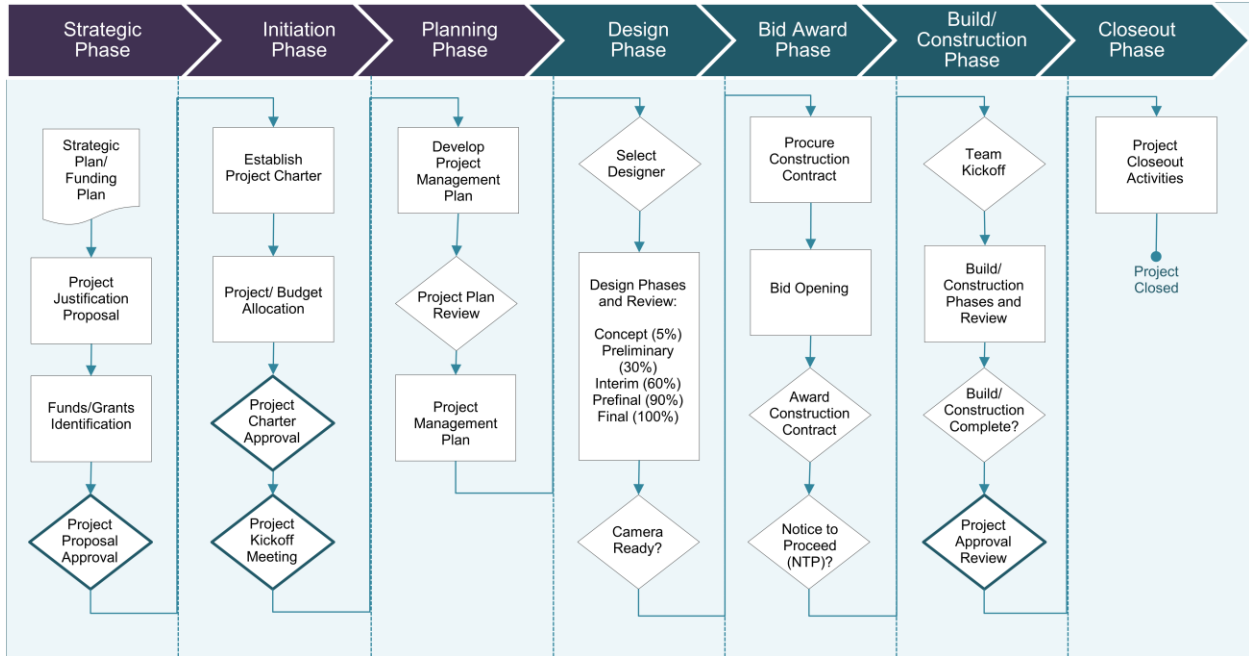
At the time the project is approved, the Project Sponsor and Program Manager nominate a Project Manager to the Project Executive Group. The Project Executive Group either confirms the nomination or assigns another person as the Project Manager. The Project Manager will be a Metrolink employee unless approved by the Project Executive Group. Like the Project Sponsor, the Project Manager also owns the project from its beginning to its completion. The Project Manager runs the day-to-day operation of the project. The Project Manager is primarily responsible for making sure the project is managed and conducted in accordance with this manual, Metrolink engineering standards, Metrolink policies and procedures, and all applicable regulations and statutes.

The Project Manager works with the Program Manager when issues arise and supports the Project Sponsor's direct interaction with the Project Executive Group.

The Project Manager is the main conduit for project information to the Project Executive Group, the Program Management Office, the Project Sponsor, and the Program Manager. The Project Manager is responsible to bring 1) all unresolved issues related to the project to the Project Sponsor and Program Manager for ultimate resolution and 2) any event or situation that is out of the norm or could have some adverse impact on the project to the attention of the Project Sponsor and the Program Manager. The specific duties and responsibilities of the Project Manager are detailed in section 5.0 of this manual.

3.0 The Project Lifecycle

All Metrolink projects follow the project lifecycle, illustrated in the following diagram. Metrolink projects begin with a Strategic Phase, Initiation Phase, and Planning Phase. For non-construction projects, the Bid Award Phase may follow the Planning Phase, prior to Design. Other deviations from the Project Lifecycle must be approved by the Project Executive Group.



3.1 Strategic Phase



The inception for Metrolink-sponsored projects will begin in the Strategic Phase, determined by the Strategy and Capital Planning Group.

3.1.1 Enterprise Vision/Funding Plan

Metrolink’s strategic business needs determine the project’s justification and priority. This essential starting point for each project ensures that projects are aligned with agency-wide goals, are guided by Metrolink’s enterprise vision, and that funding is identified.

3.1.2 Project Justification Proposal

The Strategy and Capital Planning Group meets with Metrolink’s various departments to identify project concepts and need, as part of the Strategic Capital Plan development. Project requests from agency departments may originate from the department or from a Member Agency. Project justifications are made based on agency need and priorities. Project concepts intended to be authorized will be included in the Strategic Capital Plan.

3.1.3 Funds/Grants Identification

After the agency need for the project has been determined, the Strategy and Capital Planning Group links the projects within the Strategic Capital Plan to sources of funding or grants. The Strategic Capital Planning Group works with the respective departments to identify the necessary funding to cover the cost of the budget.

3.1.4 Project Proposal Approval

The Strategic Capital Plan includes the project proposals, outline of project concepts, agency needs, and funding sources. The project proposal defines the project, and includes a defined project scope. The scope and business requirements are defined in greater detail in the next phase. The Project Executive Group reviews and approves the Strategic Capital Plan to authorize the projects to be launched. As part of this approval, the Project Sponsor, Program Manager, and Project Manager are identified. A project included in the approved plan will transition from a concept to a defined project in the Initiation Phase.

3.2 Initiation Phase



After the project proposal has been approved, the Project Manager will start the Initiation phase, where the project is defined and project objectives are established.

3.2.1 Project Charter

Key Deliverable: Project Charter

The Project Manager will draft a Project Charter. The Project Charter serves two key purposes. First, the Project Charter provides a single location to establish the foundation of the project. The project foundation is made up of several key components: project goals and objectives, key roles (Project Sponsor, Department Head, Program Manager, and Stakeholders), project scope and business requirements, project roles, high-level project schedule, and high-level project budget. The Project Manager will work with the project stakeholders to define the project scope and project components. Similar to a building’s foundation, a comprehensive and sound Project Charter will provide a base to build a stable and successfully-executed project.

The second key purpose of the Project Charter is to serve as an agreement between the Project Sponsor, Project Manager, and project Stakeholders, to agree upon the project scope and project approach. Metrolink projects rarely only affect one team or department. A stakeholder is anyone who has a vested interest in the project, and he/she may come from a different department or an outside third party Public Agency. The Project Manager will identify stakeholders and incorporate input at this beginning stage of the project. The risk of not doing so may result in significant rework in later stages of the project, or delivering a solution which does not meet key needs. If stakeholders do not agree with the content of the Charter, the

Project Manager must work out key concerns and revise the Charter as needed. The project should not move forward without signoff from all stakeholders.

3.2.2 Project Team Assembly

As part of the Initiation Phase, the Project Manager assigns the project team in coordination with the Program Manager and Project Sponsor. Some team members will be involved throughout the course of the project, while other high-level team members may only be involved at key decision points. For smaller projects, one person may fill several roles. For larger projects, a separate Project Scheduler and Project Cost Analyst may be needed.

3.2.3 Budget Definition

The Project Manager will define a high-level project budget to be included in the Project Charter. This high-level project budget will be aligned to project goals, and estimated costs will be allocated to general cost categories. The Project Manager will work with the Program Management Office to determine these cost categories, which may include Construction-Signals, Professional Services, and Design.

3.2.4 Initiation Approval

As part of the Initiation Approval, the Project Manager will hold a Project Charter Sign-off meeting with all stakeholders identified on the Project Charter and with the Project Executive Group. This meeting will be used for the Project Executive Group, the Project Sponsor, and the project team to review and sign-off on the Project Charter.

3.2.5 Project Kickoff Meeting

Once the Project Charter has been approved, the Project Manager will hold a Project Kickoff Meeting, which will include the Program Manager, Project Sponsor, project stakeholders, and project team members. The purpose of this meeting is to introduce stakeholders, introduce team members, review the Project Charter, present project objectives, review the timeline and milestones, and present the next steps. The kickoff meeting gives the green light for the project to move forward to the Planning Phase.

3.3 Planning Phase



The importance of the Planning Phase cannot be over emphasized. It is during this phase where the Project Manager lays the groundwork for the project. The project directions that support the design are developed in detail in the form of the Project Management Plan. Spending the necessary time and effort during this phase will pave the way for more successful subsequent phases.

3.3.1 Project Management Plan Development

Key Deliverable: Project Management Plan

The key deliverable of the Planning Phase is the Project Management Plan (PMP). The Project Management Plan outlines the steps necessary to complete the project on time, on budget, and to the specified requirements of the Project Charter. The Project Charter acts as a source document for the Project Management Plan. The Project Management Plan will incorporate: scope, schedule, cost, risk, and resources. As part of this phase, the project team will:

- Identify project goals – goals will be based on the project scope
- Develop the schedule - identify project milestones and tasks needed to carry out project goals
- Develop the budget – develop the project budget and align it with the schedule
- Identify risks – capture risks and develop the plans to minimize and mitigate the risk
- Identify resources – determine roles and resources needed to carry out the project

Developing the schedule is a main component of the Project Management Plan. A key to an effective project schedule is to break down the work into clear and simple tasks. The Project Manager and project team will plan how the project will be executed in a realistic timeframe, while still maintaining the quality of the project. The Project Manager will adjust the project schedule as needed throughout the course of the project.

The Project Manager will coordinate with the Engineering and Operations departments to discuss any potential for using a shifted work week. Work windows should be established, and the project team should perform an analysis of the potential cost benefits of defining a non-standard work week. Safety considerations will be paramount as part of this analysis. Budget estimates should reflect the highest potential labor costs.

3.3.2 Environmental Clearance and Permitting

During the Planning Phase, if the project utilizes federal funds, the Project Manager must assure that the project clears the environmental impacts of the project in accordance with NEPA (National Environmental Policy Act). The regulations are described in detail in 23 CFR 771. The NEPA process requires Metrolink to disclose, avoid, and minimize impacts to the extent possible during project development. The FTA regional office can provide a checklist that will help evaluate the significance of potential impacts to determine if the project is exempt from further environmental review or if more detailed environmental studies must be performed.

- **Categorical Exclusion (CE)** – If it is determined that the proposed project would not result in significant adverse impacts, a CE is prepared, and no further action, other than permitting, is necessary. Note that Metrolink has a categorical exclusion for projects that are to be performed strictly within the railroad right-of-way or on former railroad property. An example of this is the Eastern Maintenance Facility.

- **Environmental Assessment (EA)** – In cases where the impacts or actions are not known, a more formal study (EA) is performed. At the conclusion of the EA study, Metrolink may receive a Finding of No Significant Impacts (FONSI).
- **Environmental Impact Statement (EIS)** – If impacts to the environment are found to be significant, an EIS must be prepared. However, final design activities, property acquisition, purchase of construction materials or rolling stock, or project construction, cannot proceed until FTA approval is received. If new information is found or conditions change after FTA approval, a reevaluation may be required.

Federal law prohibits beginning of final design before NEPA completion: an FTA Record of Decision (ROD), Finding of No Significant Impact (FONSI), or Categorical Exclusion (CE).

Depending on the nature of the project, there are many permits that the Project Manager will have to be concerned with and acquire prior to construction. The applicable environmental regulation is outlined in Section 404 of the Clean Water Act which requires a permit from the U.S. Army Corps of Engineers for the discharge of dredged or fill materials into Waters of the United States (“Waters of the United States” include wetlands and any waters deemed “navigable”).

Outside the categorical exclusion mentioned above, Metrolink capital projects are generally subject to the requirements of the California Environmental Quality Act (CEQA). CEQA requires California’s public agencies to identify significant environmental effects of their actions and either avoid them or mitigate them, where feasible.

It is the responsibility of the Project Manager to ensure that the General Engineering Consultant that performs the design has prepared the necessary environmental documents and has obtained the proper permits.

3.3.3 Project Management Plan Review

The Project Manager will review the Project Management Plan with the Project Sponsor and project team. For larger projects, this review involves a Project Scheduler and Project Cost Analyst. Next, the project continues to the Design Phase.

3.4 Design Phase



For construction projects, the Design Phase will follow the Planning Phase. The order of the phases will be determined based on the project type. For example, for software projects, a contractor must be bid out before the Design Phase can begin.

3.4.1 Designer Selection and Award

The process of selecting a design consultant may differ based on the project type. For construction projects, the Project Manager and Engineering team will select the design consultant from several existing design contracts, in accordance with Metrolink Contracts Department procedures. For non-construction projects, the design consultant and build consultant may be the same entity, and may have been selected in an earlier phase.

Before the design work will be awarded to the design consultant, a Contract Task Order (CTO) will be prepared and approved. Please refer to Checklist #1 in this document for steps for initiating and executing a CTO.

3.4.2 Preliminary Design

After the design consultant has been awarded, the consultant will develop a preliminary design for review. Throughout stages of the design process, the Project Manager and Metrolink design team will monitor the contractor's cost, schedule, and quality of work against the scope of work.

For construction projects, the design progresses through five stages of design and review: Project Concept and Design Criteria (5%), Preliminary Design (30%), Interim Design (60%), Pre-final Design (90%), Camera Ready (100%). After each stage, the Project Manager and Metrolink Engineering team will review and approve the design. Please refer to the Design Quality Assurance Plan and the Design Procedures Manual for a full description of this process.

For non-construction projects, the stages of design may differ based on the type of project. For software projects, design deliverables for review may include software design specifications, system flow diagrams, and technical specifications.

3.4.3 Final Design

Key Deliverable: Final Design Specification

The Design Phase concludes with a Final Design review and approval from the project team and Metrolink design team. The key deliverable in this phase is the Final Design Specification, provided by the design consultant.

For construction projects, the Project Manager and Metrolink Engineering team will review and approve the Final Design Specification. The approval of the Final Design to the Camera Ready (100%) stage signifies that the project is ready to move to the Bid Award Phase.

For non-construction projects, the Project Manager and Metrolink design specialists will review and approve the Final Design Specification. The approval of the final design signifies that the project is ready to move to the next phase, which may be the Build/Construction Phase based on the project type.

3.5 Bid Award Phase



During the Bid Award Phase, a competitive procurement method must be used in accordance with Metrolink’s Contract and Procurement Policies and Procedures, in Volume 2 of this manual. These procedures follow compliance with federal and state statutes and requirements for public agencies.

3.5.1 Procure Contract

The Project Manager will work with the Contract Administrator to develop a competitive procurement for the scope of work. The Project Charter and Project Management Plan will be used as source documents to develop the procurement.

Several competitive procurement methods may be utilized; the most common are one of the following:

- Invitation For Bid (IFB) – competitive sealed bids, described in detail in Volume 2 of this manual
- Request For Proposal (RFP) – competitive negotiations, described in detail in Volume 2 of this manual

Please refer to Section 4.0 Procurement/ Contract Delivery of this document for more detailed procurement guidelines.

3.5.2 Contract Award

Key Deliverable: Contract

The key deliverable in this phase is the contract between Metrolink and the contractor. This contract may be in the form of a competitively bid contract, a Contract Task Order (CTO), Agreement, or other document. The Project Manager and project team will work with the Contract Administrator to select the contractor, and sign the contract. Please refer to Section 4.0 Procurement/ Contract Delivery of this document for more detailed contract guidelines. After the contract has been signed and awarded, the project is given the Notice To Proceed (NTP) to the Build/ Construction Phase.

3.6 Construction Phase



For non-construction projects, some of the following sections may not apply, specifically sections regarding construction work hours and liquidated damages.

3.6.1 Team Kickoff

The Project Manager will hold a kickoff meeting with the project team to start the Construction Phase. This kickoff meeting will serve several purposes:

- Introduce the project team members and roles
- Set project goals and expectations
- Review the Project Management Plan and project schedule
- Communicate key success factors

3.6.2 Construction Management

Throughout the Construction Phase, the Project Manager will track and report on weekly project status. The Project Manager will be in frequent communication with the contractors and consultants on the project. The Project Manager will track and report on project budget, costs, and schedule through the PM Sheet work tool. The Project Manager will be prepared to discuss project status at monthly department status meetings. Please refer to section 5.4.3 of this manual for additional description of the Project Manager's role in Construction Management. The Resident Engineer Manual should be referred to for more specific information during the Construction Phase.

3.6.3 Construction Work Week/Work Hours Restrictions

A work window is a period of time with a specific beginning time, ending time, and duration during which access to the operating envelope or operating system is provided for construction or installation purposes. The specification of work windows for inclusion in the contract documents is a coordinated effort between the Project Manager, the Engineering Department, and the Operations Department. The contractor's work planning may or may not make use of all work windows. Work windows may be of a minor type, a single track outage type, a multiple track outage type, or a signal system type. Work windows are most often specified for overnight and weekend periods during overnight and weekend periods.

The Project Manager defines the "Construction Work Week" for inclusion in the Contract Special Provisions. The work week is established to meet project needs and related labor code requirements. The standard construction industry work week is Monday through Friday in daytime shifts. Establishing an alternate work week should be considered when work is to be performed during non-standard periods (i.e., night and weekends). . Defining a valid alternate work week (agreed upon by the construction contractor and affected union locals) helps manage safety and operational constraints and sometimes allows exceptions to overtime rules and regulations. Managing these factors successfully reduces construction labor costs.

3.6.4 Liquidated Damages and Rail Service Interruptions

Before release of the Invitation for Bid or Request for Proposal, the Project Manager must calculate liquidated damages (LD's). These calculations MUST be made for each individual project and must account for the specific conditions of the project to be enforceable. Liquidated damages are not merely a punishment to the contractor for late performance.

Calculations of liquidated damages, including those for interim milestones, are to be made in accordance with the guidelines contained in the Federal Transit Administration (FTA) Best Practices Procurement Manual. See Vol. 3 of this Manual, Tab #24 for additional instruction.

A rail service interruption occurs when the contractor's construction operations exceed the approved time period (normally the work window) and as a consequence, revenue passenger train(s) encounter a delay to their scheduled operations. A delay may also occur when the contractor's work does not meet the requirements of the contract and such conditions impact the ability to return track to service. Under such conditions, the contract documents will stipulate an assessment against the contractor on the basis of a dollar amount per minute of delay per train with a cumulative total maximum assessment per day. Typical amounts may be \$500 per minute per train and a daily maximum of \$50,000. However specific numbers for each project must be supplied to the Contract Administrator by the Project Manager in consultation with the Operations Department.

3.6.5 Safety

Safety management during the Construction Phase includes but is not limited to:

- Planning of work to avoid personal injury and property damage including Job Hazard Analyses (JHA's) for specific tasks
- Monitoring of work and practices to provide early detection of risks
- Protecting adjacent public and private properties to provide for safety of the public
- Providing safety training and incentive programs
- Complying with federal and state Occupational Safety and Health Acts (OSHA)

3.6.5.1 Role of the Project Manager in Safety Management

The protection of passengers, employees, contractors, consultants, and the public is paramount. The Project Manager's role is to establish an awareness and culture of safety. The Project Manager, with the assistance of the Resident Engineer, monitors contractor safety performance and compliance. The Project Manager will compare performance to contractual safety requirements, and will conduct regular safety audits and loss control surveys. If a rules violation or safety issue is observed, the Project Manager or the Resident Engineer will notify the Project Sponsor and the contractor's representative. The contractor must immediately take corrective action and respond in writing as required in the contractor's safety management plan.

3.6.5.2 Role of the Contractor in Safety Management

Contractors must have a safety management plan in place prior to commencing work. During the Construction Phase the contractor must assure safety on site, provide safety training to its employees, provide safe working conditions, and prevent accidents or damage to adjacent public and private property. When the contractor is notified of a safety violation by Metrolink or its own field staff, the contractor must immediately take corrective action and notify Metrolink in

writing of the corrective action taken. Failure by the contractor to take corrective action may result in a termination of the contract.

3.6.5.3 Accident Investigation and Record Keeping

The contractor must investigate and report all accidents and possible operating rules violations without delay. The investigation will generate recommendations for corrective actions to prevent recurrence of similar incidents. The contractor will submit a monthly accident report to the Project Manager and Resident Engineer. These reports allow Metrolink to assess the contractor’s safety performance. Safety performance is measured by recordable lost time accident frequency and the type and cause of accidents. Federal and state regulations mandate reporting of certain injury accidents.

3.6.6 Review Process

The Project Manager will hold a final review with key stakeholders, prior to closing out the project. The purpose of this review is to confirm that all tasks have been completed to satisfaction, and that stakeholders agree that the project has concluded.

3.7 Closeout Phase



For the Closeout Phase, the Project Manager oversees the final details of the project. These tasks include final settlement of project contracts, acceptance of contract deliverables, collection of contract documents and records (such as as-built drawings, operation and maintenance manuals, and warranties, etc.), and approval of final payments.

3.7.1 Commissioning

Proper commissioning is vital to the success of construction projects. Commissioning is the process of validating constructed systems and equipment in coordination with operations personnel and third parties and training the end users and maintenance personnel. The Project Manager ensures that the documentation, manufacturing requirements, systems, equipment, and operations are integrated, validated, and accepted. Allocating adequate time and resources, and project dollars to commissioning will minimize the risk of delays, cost overruns, underperforming systems, and unreliable support equipment. The Project Manager should begin the project with the end in mind through a well-planned commissioning phase early during project initiation. The Project Manager must include the time and resources needed to train and fully familiarize the end users and maintenance personnel who will live with the final work product to ensure a successful handoff of the new facility from the construction team to the operations team.

3.7.2 Closeout Process

To settle and close the project the Project Manager, Contract Administrator, and the Resident Engineer follow the procedures specified in the contract's terms and conditions. Please refer to Volume 2 of this manual for the contract closeout process. The FTA has specific guidelines for this process. Key areas are outlined below.

For construction contracts, the Project Manager performs the following activities:

1. **Manuals and Training** – Ensure that the contractor delivers the operations and maintenance (O&M) manuals for work performed, and provides any training for Agency staff.
2. **Beneficial Occupancy** – A contract is deemed substantially complete when the permitting authority issues a Certificate of Beneficial Occupancy to the Agency, then the Agency can occupy and begin use of the facility and equipment. The Project Manager ensures that the Resident Engineer prepares a punch list of open items for the contractor to complete.
3. **Guaranties and Warranties** – With beneficial occupancy confirmed the contractor has initiated the guaranties and warranties associated with the facility and equipment.
4. **Record or As-built Drawings** – Confirm that the Resident Engineer validates that the contractor has submitted the record drawings that show the as-built condition of the constructed facility and installed equipment.
5. **Final Inspection** – Lead a final walkthrough inspection of the facility to confirm that the contractor has completed the open punch list items and all work is completed correctly and to satisfaction.
6. **Notice of Completion** – Prepare and file a notice of completion with the County Recorders' office in the county where the project is located.
7. **Resolve Outstanding Changes/Claim Disputes** – The Project Manager resolves any outstanding contract disputes.
8. **Final Payment** – With the above activities completed, the Project Manager approves the final payment to the contractor, and the Agency can release retention and close the contract.
9. **Commissioning** – Assure that all other commissioning activities have been completed in a satisfactory manner.

For professional services contracts, the Project Manager performs the following activities:

1. **Verification of Scope Completion** – Confirm that the contractor has satisfactorily delivered the services called for in the contract scope of work.
2. **Contract Audit** – When contract payments are on a cost plus fee basis, the Agency should have the right to audit the contractor's costs. The audit should verify direct labor

rates, support for time charges, support for other direct costs, and justification for overhead rates.

3. **Final Payment**– Pending satisfactory completion of services and audit of costs, the Project Manager approves the final payment.

For construction projects, the Project Manager completes the Project Closeout checklist as referenced in this manual. This checklist references tasks required by the Resident Engineer, Project Manager, Contracts Administration & Procurement, and Finance. The Project Manager must also follow the PM Closeout Responsibilities as communicated by the Program Management Office (PMO). These responsibilities include submitting a Project Completion Report.

3.7.3 Project Demobilization

The Project Manager must develop a staffing plan for the final phase of the project that plans the reduction in the Agency's own forces and those of the professional service consultants. If applicable, the Project Manager works with the Human Resources department to help manage the transition of staff off the project.

The Project Manager's final challenge once the demobilization plans are in place is to keep the project team's attention focused on the tasks needed to complete the project as opposed to what they will be doing once the project is over.

3.7.4 Project Evaluation

Before the project is over and key project staff has dispersed, the Project Manager holds a project evaluation. For smaller projects, this project evaluation may be in the form of requesting feedback from the project team. For larger projects, this evaluation is a meeting. Although Project Managers may be ready to move on to the next project, they should make use of this unique opportunity to find out the Lessons Learned:

- Reapply what went well – Determine what key tools and experience were needed to successfully execute the project. Project Managers should reapply this knowledge so that they do not have to “re-invent the wheel” for the next project.
- Review what could be improved – Determine what went wrong and could be fixed for the next time. Take the corrective actions needed for future projects.

Lessons learned can consider technical, managerial, and process aspects of the project. They will be discussed and documented as part of the review, and most importantly, applied to future projects to lead to greater project success.

4.0 Procurement/Contract Delivery

4.1 Teaming with Technical Groups

Metrolink projects are competitively procured in accordance with Metrolink's Contract & Procurement Policies & Procedures for goods and services in Volume 2 of this manual, Tab #20 and in accordance with federal and state statutes and requirements. CON-10, Competitive Procurement outlines the procedure to use competitive sealed bids (Invitations for Bid, "IFB"), competitive negotiations (Requests for Proposal, "RFP") and other methods. All of the planning and development of details for the procurement of any good or service will be accomplished by a two-person team comprised of the Project Manager and a Procurement Contract & Compliance Administrator. The Contract Administrator is assigned to the effort by the Director, Strategic Sourcing, Contracts & Supply. This team will determine the final specifications for the good or service, the procurement method and type of contracting to be employed; and prepare a list of acceptable bidders. This work is supervised by the Program Manager assigned to the project. The two team members will also report to their respective department directors. Any issues arising from this work will be resolved by the Program Manager and the two department directors.

4.2 Contract Management

The details of any contract other than a construction project will be managed by a staff member from Strategic Sourcing, Contracts & Supply assigned to the duty by the Director, Strategic Sourcing, Contracts & Supply. That individual with collaboration from the Project Manager will be responsible for ensuring the good or service is appropriately delivered, and the contract terms have been satisfied, and for monitoring the timely payment of invoices in accordance with the contract. This individual will work closely with the Project Manager to verify representations from the vendor, and to make certain that vendor is entitled to payment.

4.3 Coordination with the Program Management Office

The Project Manager will work closely with the Program Management Office in their efforts to maintain and report timely information on the progress of project contracts and project performance relative to budget and schedule. Section 6.0 of this manual outlines the role of the PMO in establishing standards and comprehensive reporting and analysis necessary for Project Managers to effectively manage project costs and schedule performance.

5.0 Project Manager Role and Responsibilities

5.1 *Qualifications and Training*

Project Managers will in general be Metrolink employees who through their education and experience have been approved to function in the Project Manager role by the Project Executive Group. Their experience (for construction projects) will include:

- Mixed commuter/freight rail industry infrastructure projects in dense traffic FRA-regulated corridors (e.g. track, communications, signal, grade crossings, stations, bridges, support facilities)
- Public agency contracting processes and federal, state, and local grant-related project control requirements
- Contract document reviews (plans, specifications, and estimates) and packaging construction contracts for advertisement, procurement, and award
- Knowledge related to obtaining the necessary local, state, and federal permits and arranging for utility protection and relocation
- Dealing with the California Public Contract Code, Public Utility Code, and California Public Works procurement: design-bid-build, design-build, and competitive negotiated contract delivery

Furthermore, Project Managers must receive training on how to use the Metrolink Project Manager Manual and all supporting forms and documents. Success of training will be verified through a standardized test and training must be refreshed biannually or as determined by the Project Executive Group. Project Managers may be removed or required to take the training course again if the Project Executive Group determines deficiencies in performance on previous projects. Individuals who are not Metrolink employees may be approved to function as a Project Manager for Metrolink by the Project Executive Group in those rare occasions where a unique skill set is required or when there are short term work load issues. Non-Metrolink employees approved as Project Managers must meet all the requirements for the Project Manager role expected of a Metrolink employee. The Project Executive Group is responsible for setting the standards for the position, approving and denying individuals for the position, maintaining a list of approved Project Managers, establishing and managing the training program (either directly or through oversight), and evaluating the performance of each Project Manager.

5.2 *How Project Managers are Assigned*

Project Manager assignments are the responsibility of the Project Executive Group. Particular assignments will be based on experience, capabilities, and availability. The Director of the Metrolink department initiating the project may make recommendations to the Project Executive Group. The usual practice will be that the Project Sponsor and the Program Manager will nominate the Project Manager to the Project Executive Group for approval. Project Managers can be removed from a project or transferred to another project at any time by the Project

Executive Group but this practice should be discouraged and only undertaken when there are strong reasons to do so.

5.3 Project Manager Work Loads

The number of projects a Project Manager can handle is a function of project size, project complexity, size of support staff, similarity of projects in the mix, and a particular Project Manager's capabilities.

The Project Sponsor and the Director of the Metrolink department initiating the project, should very carefully determine workloads and then follow up to make certain that decisions have been correctly made to ensure that Project Managers are efficiently and effectively managing the projects assigned to them.

5.4 Project Manager Duties

This section of the manual does not present an all-inclusive list of every duty and responsibility that a Project Manager may have to cover on every of project, but it does address the primary considerations and areas of general responsibility. A practical Project Manager should use this guidance and common sense to determine what is appropriate. Whenever the Project Manager is unsure about a given duty, that individual should check with the Program Manager, the Project Sponsor, or elevate the matter to the attention of the Project Executive Group.

5.4.1 Project Ownership/Culture

Once a Project Manager is assigned to a given project, that Project Manager and the Project Sponsor own that project until the project is completed and closed out or the Project Manager is removed from the project. Ownership means that the Project Manager is responsible for the successful day-to-day management, final completion of the project, and the successful resolution of all issues that may arise. The Project Manager never gets to say "I do not know" or "That is not my responsibility." The Project Manager is the captain of the ship.

The Project Manager is responsible for making sure that:

- all contract activities are in compliance with the contract and are correct
- all permits are successfully obtained
- all laws and regulations are complied with
- all necessary third party issues are addressed in a timely manner
- all the necessary reports are correct and on time
- all issues are resolved on the spot or elevated to the Project Sponsor or ultimately to the Project Executive Group
- all necessary communication is done
- all invoices are properly handled and paid in a timely manner
- all monies due and owing to Metrolink are invoiced accurately and timely and are received timely

- project authorized budgets are not exceeded without prior approvals from the project sponsoring agencies
- third party project cash deposits on hand are sufficient to cover all SCRRRA expenses

This is not an all-inclusive list but it communicates that practically everything that happens on the project requires the involvement and knowledge of the Project Manager. If the Project Manager cannot handle something alone, the Project Manager must get the Project Sponsor involved, or ultimately elevate it to the Project Executive Group. Not only should the Project Manager be aware of these responsibilities, it is vital that all persons directly or indirectly involved in the project also understand the role of the Project Manager and make cooperation with and support of the Project Manager their highest priority.

5.4.2 The Project Lifecycle

The Project Lifecycle is described in detail in Section 3.0 of this manual. This is the way Metrolink conducts projects and it is the responsibility of the Project Manager to either perform the individual tasks in the lifecycle or make sure they are completed and the necessary people and groups are involved. Not all phases of the Project Lifecycle will be required for every kind of project. It is the duty of the Project Manager to determine which phases are needed for their project and to obtain approval from the Project Sponsor and the Project Executive Group.

5.4.3 Construction Management

On most moderate to large projects the Project Manager will have a Resident Engineer and field construction management support staff to provide assistance. However, the Project Manager, independent of the size of the project, is responsible for all aspects of the management of construction. This will include but not be limited to:

- becoming intimately familiar with the design plans and all manuals and standards which support the design
- maintaining liaison with Metrolink, contractors, and third parties to ensure proper involvement and approvals
- making sure the final product has the quality and detail contained in the design
- managing and handling approvals of contractor submittals
- managing budget and schedule and dealing with associated issues
- making sure contractor complies with all laws and regulations and has secured the necessary permits

In the final analysis, the Project Manager has to ensure that the contractor delivers on the contract, fulfills all obligations, and adequately addresses and characterizes any changed conditions or required changes to the design. The magnitude and impact of any issues that arise during construction should be managed by early detection and rapid response supported by intimate knowledge of the design and specifications.

During construction, the Resident Engineer is the Project Manager's greatest asset. The Resident Engineer manages and directly observes the contractor's work on a day-to-day basis. The Resident Engineer takes the leadership role to administer the construction contract to ensure that the contractor completes the full scope of the work safely, completely, to the required standard of quality, within the contract's Board-authorized price, and within the contract time specified for construction. To accomplish this, the Resident Engineer:

- enforces the contractor's safety performance and compliance with operational rules, Job Hazard Analyses, and safe work practices;
- monitors the contractor's performance against the contractor's submitted schedule and work plans;
- ensures the contractor's compliance with quality standards by ordering re-work of substandard or incorrect work;
- monitors and coordinates the contractor's communications with third parties as needed.

5.4.4 Project Visibility

Metrolink projects involve many stakeholders and persons or agencies who have interest in what is happening. These entities include:

- Member Agencies who may be funding or partially funding the project
- Other funding agencies
- Third parties that may be impacted by the project
- Agencies issuing permits required by the project
- The Project Executive Group, the Project Sponsor, Metrolink departments who may have initiated the project, and other departments within Metrolink that may be supporting the project

Some of these entities have formal and very specific reporting requirements while others just want to be kept informed. It is the responsibility of the Project Manager to determine what the scope and specific form of communication is for each entity and to make sure that those communication responsibilities are adequately discharged at all times. The Project Manager is also responsible for the content of all communication and any required follow up. The Project Manager should have a communication plan in place as part of the Project Management Plan that can be implemented for all reasonably foreseeable emergency situations.

5.4.5 Third Party/ Local Agency Coordination

Projects often involve local agencies or third parties, require approvals from them, or can potentially impact them. The Project Manager has shared responsibility with the designers, contractors, and Resident Engineers to function as the conduit between Metrolink and third parties or local agencies for all matters that could be related to the project. The Project Manager has the ultimate responsibility in Metrolink to maintain project coordination as needed. This may involve coordinating work windows with local agencies or other railroads accessing track or

other infrastructure components impacted by the project, dealing with access and utilities issues, managing all required local permits and approvals, bringing critical third party issues to the attention of the appropriate individuals at Metrolink when that need arises, and developing and providing special reports and presentations for governing boards and external agencies when that activity is required.

6.0 Program Management Office

The Project Management Office is a staff function. Its role is not to become directly involved in the day to day execution of projects or programs, but to work with the respective project and program managers in providing management with reasonable assurance that the organization's are being run consistently and effectively, thereby giving management the information and tools that it needs to make appropriate decisions in a timely fashion. A typical PMO's responsibilities, in collaboration with the organization's project management community, include the following:

1. Development, review and implementation of project and program management procedures standards and practices specific to the organization's operating environment and taking into consideration all applicable constraints.
2. Establishment and maintenance of project management tools and techniques, and support the project managers in the use of the same.
3. Provision of third party management reporting and analysis of project performance.
4. Organization and management of project management training for all appropriate organizational staff members
5. Promotion of the project management culture and disciplines throughout the organization
6. Provision of expert support for tools and techniques relating to planning, scheduling, tracking, risk management, scope management, financial management, status reporting, and other project management methods and disciplines.
7. Participation in project / program performance reviews.
8. Technical services relating to project scheduling, tracking and reporting.

These are some of the roles and responsibilities that a Project Management Office will typically assume. As of the publication date of this Project Manager's Desk Book, the specific roles and responsibilities of SCRRA's Project Management Office are undergoing revision, and will be provided in detail with the next revision.

Appendix A: PM and RE Manual Reference Documents

PM & RE MANUAL LIST OF APPENDICES AND INCLUDED REFERENCE DOCUMENTS	
TAB	DOCUMENT
VOL. 2: Appendices	
1	List of Reference Documents, Key Regulations, and Secondary References
2	FC-001 Contract Modification Overview
3	FC-002 Request for Change (RFC)
4	FC-003 Request for Contract Action (RFCA)
5	FC-004 Change Notice (CN) Process
6	FC-005 Work Authorization Change Notice (WACN) Process
7	FC-006 Negotiation Process
8	FC-007 Change Order (CO) Process
9	FC-008 Progress Payment Process
10	BP-001 Best Practice #1: Project Study Report
11	BP-002 Best Practice #2: Project Cost Estimate
12	BP-003 Best Practice #3: General Contract Task Order Process
13	BP-004 Best Practice #4: Lessons Learned
14	BP-005 Best Practice #5: Value Engineering
15	Project Control Procedure Manual
16	Contract E736A-09 Attachment A: PM/CM Contract Scope of Work
17	E736A-09 Appendix A: FTA Written Standards of Conduct & Conflicts of Interest, Personal & Organizational
18	Project Budget Reallocation (PBR) Policy & Procedure
19	General Safety Regulations for Third Party Construction and Utility Workers on Metrolink Property
20	Contract & Procurement Policies & Procedures, Revised August 14, 2009
VOL. 3: Major Outside Reference Documents	
21	Consultant Audits under ACEC/AASHTO/FHWA Guidelines
22	2010-04-06 Letter from Caltrans Chief, External Audits regarding Revised Uniform Audit and Accounting Guide AASHTO Uniform Audit & Accounting Guide, 2010 Edition
23	FTA Construction Project Management Handbook, September 2009
24	FTA Best Practices Procurement Manual

Appendix B: Quick Reference Checklists

The following checklists are summaries of the process to perform the subtasks required to achieve the objective. Refer to the process flow charts FC-001 through FC-006 and the best practices BP-001 through BP-006 contained in VOL. 2 of this Manual, Tabs #2 through #14 for more detailed instruction.

CHECKLIST #1: Initiate and Execute a Contract Task Order (CTO) or Job Order Contract (JOC)

I. Contract Task Orders must have the following documentation attached to the CTO forms prior to submitting for approval.

- Project Manager Monthly Progress Summary Sheet
- Request for CTO Proposal with a detailed Scope of Services indicating the services required
- Funding Source (Federal/Local/State)
- Conflict of Interest Certification
- Fixed Fee Calculation Worksheet
- Engineer's Estimate that clearly matches the current task order request
- CTO Proposal from Vendor to include :
 - Specific list of vendor deliverables and due dates for the current tasks
 - What types of reports are required and how often, what types of status meetings are required and how often.
 - Vendor updates to the list of deliverables and due dates monthly
 - CTO staffing plan that includes all hours for the CTO, by individual and position by month over the life of the project. Plan must total to hours and labor costs negotiated.
 - Resumes of proposed key staff to be included with the CTO proposal, if required.
- Memo to file explaining selection of specific firm
- Summary Record of Negotiations for the agreed hours and staffing levels
- Short letter from the Project Manager to the file justifying the need for the CTO, and outlining the Project Manager's estimate, comparison of vendor proposals, summary of negotiations, and justification of consultant administrative costs.

II. Documentation required post-award of CTO

- Vendor to provide a work plan for the task order within two weeks of signature
- Vendor to provide a CTO Task Order schedule, with enough detail to manage the task, within two weeks of signature. This will be the task order baseline from which the task order performance will be measured

- ❑ Vendor Staffing Plan updates (planned vs. actual) sent to SCRRRA project team members on a monthly or quarterly basis

III. Responsibilities of Project Manager in Management of CTO

- ❑ Clarify the threshold for revisions (if any) for which some of the above may not be required at the level of detail required for larger CTO's
- ❑ Project Manager to check PM Sheet to ensure CTO amount is incorporated into the Estimate at Completion

Refer to Vol. 2 of this Manual, Tab #13 BP-003 Best Practice #3 General Contract Task Order Process for more detailed instruction.

CHECKLIST #2: Process a Change Order

- Project Manager reviews and approves scope of Change Notice sent by Resident Engineer
 - RE prepares Fair Cost Estimate prior to negotiation with contractor
 - RE negotiates \$ amount and time impact of change with contractor
 - A CN does not authorize a Contractor to commence performance of changed work.
- Resident Engineer sends Change Order package to Project Manager for review and approval
 - Contractor RFI or other originating document present in CO package?
 - Change Notice present in CO package?
 - Fair Cost Estimate in CO package?
 - Time Impact Analysis present in CO package?
 - Cost Summary present in CO package (RE Fair Cost Estimate)?
 - Summary Record of Negotiation present in CO package?
- Project Manager approves and initials Change Order
- Project Manager obtains approvals for Change Order
 - $\leq \$50,000$ – Assistant Director, Capital Program Management approves
 - $\$50,000 \leq$ but $\leq \$150,000$ – Director, Engineering and Construction approves
 - $\geq \$100,000$ – Check with Procurement if outside cost review needed
 - $\geq \$150,000$ – requires Metrolink Board Approval & CEO signature
- Upon receipt of approval, Procurement issues Change Order to contractor

Refer to Vol. 2 of this Manual, Tab #8 FC-007 Change Order (CO) Process for more detailed instruction.

CHECKLIST #3: Get a Construction Invoice Paid

- Resident Engineer reviews Pay Application
 - Resident Engineer and contractor representative verify & resolve quantities installed
 - Resident Engineer forwards resolved pay application to contractor for signature
 - Contractor concurs with resolved pay application and signs it
- Project Manager and Program Manager concur with Resident Engineer's approval of pay application
- Resident Engineer signs pay application and generally, this starts the 30-day time period within which the invoice must be paid. Check Contract for verification of the payment time periods.
- Resident Engineer sends pay application to Metrolink Accounting
- Accounting attaches Purple Sheet and forwards pay application to PMO
- Program Management Office:
 - Codes the invoice
 - Routes pay application for approval
 - Assistant Director, Capital Program Management
 - Director, Engineering and Construction
- CPM Assistant returns approved pay application to Accounting for payment
- Accounting cuts check to contractor
 - Accounting mails check to contractor, OR
 - Project Manager takes receipt of check and
 - Hand-delivers check to contractor, OR
 - Overnight mails check to contractor

CHECKLIST #4: Close Out a Construction Contract

- RESIDENT ENGINEER & CONTRACTOR**
 - Certificate of Substantial Completion
 - Notice of Completion
 - Request for Final Acceptance
 - Certificate of Final Acceptance
 - Notice of Completion
 - Closeout Book
 - Punch List
 - Permit Sign-Off
 - Final Quantities Log
 - Final Report – Material Testing/Special Inspections
 - As-Built Schedule
 - Warranties and Guarantees
 - Maintenance and Operation Manuals
 - Lien Releases from Subcontractors
 - Certificate – “All Claims Resolved”
 - Certificate – “No Claims for Subs”
 - Certificate – “Warranties/Guarantees in Effect”
 - Final Payment Application (in jacket of Closeout Book)
 - Release of Retention Invoice (in jacket of Closeout Book)
 - As-Built Drawings (General Engineering Consultant)
 - Request for Final Payment
- PROJECT MANAGER & CAPITAL PROGRAM MANAGEMENT**
 - Assistant Director, Capital Program Management and Director, Engineering and Construction sign Certificate of Substantial Completion
 - Assistant Director, Capital Program Management and Director, Engineering and Construction sign Notice of Completion
 - Project Manager verifies, signs, and delivers completed closeout documents to the Contract Administrator
 - Request for Release of Retention
 - Project Manager requests Budgets to halt charges to Project Charge Number
- PROCUREMENT**
 - Contract Administrator files Notice of Completion
 - Final Contract Status Report
 - DBE Compliance
 - Labor Compliance
 - Request for Release of Retention
- FINANCE**
 - Affidavit of All Bills Paid
 - Contractor Final Payment Release
 - Release Retention